Russian Journal of Physical Chemistry A 2000 vol.74 N11, pages 1873-1876

A pulsed NMR study of structural ordering in water-oil emulsions

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Abstract

Pulsed NMR techniques were used to conduct a structural-dynamic analysis of water-oil emulsions based on the temperature dependence of relaxation times of water and oil protons and the dependence of relaxation times on the pulse frequency in the Karr-Parcell-Meiboom-Gill sequence. Correlation times, activation energies, and exchange lifetimes were determined. The conclusion was drawn that structural ordering occurred in emulsions at interfaces.